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ABSTRACT

If the question of what it is that is innate is simply left as some kind of human learning potential, this position, representative of the nativist philosophy, does not differ radically from that of behaviorists. The latter position holds that a human being starts out with a mind which is basically empty and receptive to, subject to, and the natural product of experience. The nativist position holds that the mind is endorsed with fixed learning principles which, in the case of language, predetermine the form of language learning. Argumentation in support of this position, which comes from Chomsky's speculations about what the nature of the human mind must be in order to acquire language, is examined. Four of Chomsky's basic claims are outlined and questioned: (1) human language is quite unlike all other forms of animal communication and possibly represents a case of evolutionary development for the human species; (2) the human organism brings to the language learning process a special set of processing principles which must be assumed to be innate; (3) language is represented in the genetic code; and (4) unique anatomical correlates are linked to unique language development in man. Little literature is devoted to what the actual processes and mechanisms of the hypothesized innate capacity of language learning are. (CLK)

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A Note on Nativism[1]

by

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Nativism has become a common topic of discussion in linguistic treatments of language acquisition of late and many have, by admission or implication, swung over to a patently nativistic position on the matter of first language learning. However, the commitment to nativism by certain linguists is not the same as the appreciation of the implications of nativism for many psychologists and psycholinguists. Secondly, it may be that a nativistic posture is not so much the uncovering of new facts about first language learning as it is simply a re-orientation to the whole problem of knowledge in general. As such, the re-orientation from a behaviorist approach to a nativistic outlook during the last two decades may in fact not be such a major change after all. Many of the general notions which they postulate may either be similar or compatible in their generalized form, perhaps even the same in their vacuousness.

There seems to have been a relatively thorough rejection of positivism as a philosophical basis for scientific endeavour and behaviourism as contributing anything meaningful to the science of human behaviour. For example, according to Fodor and Garrett (1966:136), "psychology should not be the science of behaviour itself but rather should be the science of the nature and capacities of the mechanisms which underlie behaviour and which presumably cause it." Linguists have of recent years made similar commitments. Rationalistic deduction has become a

favoured mode of linguistic research and empirical induction has been discounted in many areas. In this type of atmosphere nativistic views have flourished in the past and have done so once again.

The basic conflict between rationalism and empiricism in terms of the language acquisition experience has been whether language acquisition can be best stated in terms of the empiricist position which maintains a basically empty mind, receptive to, subject to, and the natural product of experience, or the rationalist position which sees the mind as already somehow endowed with a number of innately fixed learning principles which, in the case of language, predetermine the form of language learning, and by extension, even predetermine the form of human language in its adherence to the rules of natural language. On this matter, Katz himself (1971:119) has pointed out that "it is by no means clear what are the innately fixed principles concerning the general form of language on the rationalist's account." In fact, he admits that linguistic theory does not validate the rationalist position as opposed to the empiricist position, although it may definitely point out factors that must be explained by any sufficient theory of language acquisition. But this fact has been too easily forgotten in debates on the issue, and it has been taken for granted by many that rationalism is somehow validated by the nature of contemporary linguistic investigation.

The major impetus to this view in linguistics has obviously been Chomsky's revival of the Cartesian view of the uniqueness of man's speech and thought processes. Both Chomsky (1968) and Lenneberg (1967) have suggested that even the barest rudiments of human language are far beyond the grasp of other species, including our closest relatives on the phylogenetic scale, the primates. Notwithstanding the burgeoning evidence that at least one clever primate -- the chimpanzee -- can and does learn something vaguely reminiscent of certain elemental aspects of syntax, this position seems to be largely supported by the claim that the acquisition of human language is something special, something quite different from what is acquired by other species and quite different in how it is acquired. Having already made behaviorism obsolete in the minds of most linguists since his review (1959) of Skinner's Verbal Behavior, Chomsky has now set out to convince us that the nature of the human mind is such that language plays a special role in the development of the human being, and aided by Lenneberg's impressive marshalling of research findings and McNeill's earlier effective promulgation, this point of view is now one which has come to be viewed with increasing favor by a large number of linguists. Indeed, Chomsky views linguistics as a branch of cognitive psychology because of the special place of language in its relationship to the mind and some (Fodor, Bever, and Garrett, 1975) are favorable to this position, while others (Taylor, 1976) are not at all sure of linguists as psycholinguists or psychologists.

Much of the argumentation in support of this nativistic position has come from Chomsky's (1965, 1968) speculations about what the nature of the human mind must be in order to acquire language. Such a position maintains that for young children to acquire language all that is needed is a small amount of experience with language -- a language, any language -- and this will in effect allow them to master the major part of the structure of their language by a relatively early age. Note that the experience is largely unspecified, that is, the linguistic input children are exposed to is rarely great; neither is it programmatically structured, nor is it seen as the same or even similar from child to child in the same speech community. This position assumes that languages exhibit the same underlying universals and that children do not experience difficulty in learning language, because they are in some sense pre-programmed to acquire language. By the same token, this pre-programming somehow is tied into the fact of how languages can be expected to be similar in their underlying structure. Thus, it is stated that with obviously insufficient and largely variable input the child is able to filter through the surface materials presented to him to construct a grammar of the competence needed to be a fluent, native speaker of the language, and this by a relatively early age. Suffice it to say that such a position at once says a great deal and at the same time represents a major break from the view of language acquisition held in behavioral and social science circles.

However, as Brown (1973:37) has indicated, there can be no question that Chomsky's position on this and a number of related questions is entirely unsatisfactory. Brown notes that "the properties defined as essential are abstract structural properties inferred from judgements that some but perhaps not all speakers of English can make and these structural properties are expressed in a certain formal notation. They are a long way from behaviour either human or animal. Even among linguists there is controversy over the proper form of notation and the necessity of postulating syntactic deep structure." Statements to the effect that all creatures other than man are quite beyond even the barest rudiments of language, and then defining what language is in terms of its essentials can easily keep man in and other animals out. However, this kind of argumentation is tautological and proves little about the nature of human as opposed to animal behavior, for what we define produces the results we wish.

It would appear that nativism as an issue in linguistics has been far too uncritically accepted. One of the major reasons, of course, is the influence of the Chomskyan paradigm in influencing the course of modern linguistics over the last decade. The more powerful the paradigm, the more powerful the protagonists involved, the more likely theoretical outgrowths of the paradigm will be accepted, often uncritically. Chomsky's far-reaching speculations have carried him beyond the realm of simple theorizing about sentence patterns to talking about

universals of language as well as universals of language acquisition, and by extension, the possible innate qualities of the human organism in respect to language. Added to this, the impressive research publications carefully presented by the late E. H. Lenneberg has added to the increasingly positive attitude toward the notion of nativism in linguistic circles at present.

Some, but by no means all, psychologists have taken up the notion of nativism. McNeill had postulated a Language Acquisition Device by which the child filters out from the data presented to him sufficient input to activate the device, with the results being a natural language. But McNeill (1970) neither represents the mainstream of psycholinguistic thought in this respect nor even a majority opinion, and is apparently changing. Others, like Brown, are openly skeptical about the validity of such a belief. For example, Brown (1973:198) notes, and probably with good reason, that "linguists and psycholinguists when they discover facts that are at all general have, nowadays, a tendency to predict that they will prove to be universal and must, ' therefore, ' be considered innate."

We may question whether in fact behaviorism and rationalism as espoused by generative linguistics are at odds, or whether both simply propose equally vacuous, and thus to some degree, compatible, concepts. Psychologists, of course, have had a much longer history of interest in the areas of

motor and intellectual development and seem less disposed to uncritically accept innateness views in these areas, even though behaviorist notions are obviously lacking.

Chomsky and Lenneberg have implied that human language may be quite unlike all other forms of animal communication and suggest that human language is possibly a case of evolutionary development for the human species, somewhat like other evolutionary innovations in our collective history. But on this point we may also note that as Whitaker (1973:97) points out, "innate aspects of behavior may be either species specific or may be attributes of any of the higher zoological classifications." After all, one of the reasons we place ungulates below canines is because of their intelligence differences; pigs and dogs are in great experimental demand in some quarters because of similarities to us in digestive systems and processes; and so forth. Linguists would perhaps do well to assess the contributions of ethologists in their subsequent implications, especially in light of the fact that both behavior and morphology have genetic as well as experiential components. Should one expect to find one component in the absence of the other in the case of language? To entertain such expectations is naive in view of what even common sense tells us of the growth and development of higher organisms. To follow Whitaker (1973:96), "the morphological and behavioral outcome in the adult ... is clearly the product of both maturational processes and environmental processes acting upon the genotype. In this general sense there is no

dichotomy between innate and environmental characteristics, only an interaction between the two."

In response to the claim that the human organism must bring to the language learning process a special set of processing principles which must be assumed to be innate we may note with Goldman-Eisler (1964:112) that every organism brings to the learning situation a peculiar way of processing the incoming data. Not even hardened stimulus-response theorists will object to this notion. Every non-gentleman non-linguist farmer knows that horses and dogs have preferred modes of perception and behavior, can be set to certain tasks and not others, can best be trained in certain manners, and so forth; nothing startling about this certainly, and assigning this fact to a special innate set of processing principles is saying the obvious.

Then what of terms like "communication" and "mutual understanding" as features which make human language distinctive? How are we to term human speech as unique in this or any other respect? Can this not be said of any animal species and any form of animal communication? And indeed, one may correctly assume that each of these species with some form of communication system may be considered to bring to their "language-learning situation" some unique and obviously innate properties in their method of acquiring and processing information which ultimately leads to the formulation of their own systems of communicative behavior. There is little point in dwelling

on this aspect of the uniqueness of man topic -- for all we know, praying mantises, were they able to articulate their self-esteem might also congratulate themselves on their uniqueness in the world, and possibly their prayerful attitude is their pre-prandial token of gratitude for just that. Claiming that they are unique by virtue of the special genetic heritage that they bring to the process of growth and maturation is redundant, for it is obvious that this is the case. Surely our level of sophistication must be somewhere beyond this.

One's response to the claim that language is represented in the genetic code is similar. Our knowledge of the double helix is very incomplete and is largely limited to simple bacteria, and so the genetic code for higher organisms is still a black box to which various features can be imputed. While it is quite safe to say that certain obvious features of an organism, like language for humans, are represented in the genetic code, it is also not especially informative at this point.

The question of species-specific behavior also raises in its wake the question of definition of species. The traditional definition of species consists of organisms whose progeny are viable and also capable of reproducing, but this has raised problems even in our taxonomic classifications. Indeed, consider the Canis familiaris and Canis lupus distinctions in the light of the possible pairings for Alsatians,

Chihuahuas, and wolves. Besides, we are by now sufficiently familiar with the cultural variability offered by various ethnobotnanical and ethnozoological paradigms to mistrust ready applications of any single general term. Species lines are not easily honored, and distinctions may be drawn and redrawn according to morphology, behavior, viable reproductive capacity, or a combination of these.

There is also the question of the unique anatomical correlates that are linked to unique language development in man. While there is little doubt of the lateralization of the hemispheres in humans, usually the left being associated with language in man, other species show some lateralization as well. Birds (see Whitaker, 1973:98) and at least one of the higher primates (Premack, 1975) apparently exhibit some degree of lateralization. Some features may thus cut across other species as well, and as such, may not be entirely unique to man alone, though their functions and origins may be different.

While a good deal of the linguistic literature has devoted much space to criticism of learning theory, little is devoted to explaining exactly what the processes and mechanisms of the hypothesized innate capacity are. There can be little doubt that an important part of the structure of the language learned cannot be explained by behaviouristic principles like conditioning and reinforcement, but by the same token, by saying that such principles do not account for how and what is learned is not the same as explicating how and what is learned.

In fact, the two views may not be entirely incompatible, and their linking could be a new phase. That is, the prevailing paradigm could change again. After all, what has made Kuhn (1970) such an unwilling cult figure in the current social science literature is his calling our attention to the fact that such changes do occur. Psycholinguistics seems to have already begun to re-think its position, and there are ample signs that psychologists are now wary of taking linguistic formulations too seriously as input for psychological theory. Kess (1976 a; 1976 b) has pointed out that directions in psycholinguistics may be reversing and has also noted (in press) that the most substantial work to date reporting the cumulative technical findings of psycholinguistic investigations of generative grammar also seem to agree that the roles must be somewhat reversed if we are to accomplish anything meaningful. The same may well be true of aspects of such developmental psycholinguistic questions as well. Having already severely and lengthily criticized experiential and mediational behaviorism, it may be time to resuscitate any principles that may have some relevance. What is needed is a moderate view in which learning is seen to cooperate with biological endowment in the child's mastery of language.

It is, as Bever (1970, 1971) has reminded us, not as if the cognitive principles and general strategies were isolated and quite without parallel in any other form of human behavior. It is likely the case that language

acquisition is a process which has parallels in more than just the regularity of its milestones of motor development. It is also probable that other kinds of cognitive maturation accompany linguistic sophistication, and they may in fact contribute to one another's development at some stage or at least interact with one another. This is certainly possible in Piaget's and Vygotsky's view of the roles of cognitive and linguistic development and may bear further looking into. Besides, "imitation of course occurs in other fields than language, and this reminds us that the acquisition of language is not an isolated idiosyncratic aspect of intellectual development but an essential part of the socialization process (Hebb, Lambert, and Tucker, 1971:218)."

We have also seen Chomsky's arguments about language acquisition and noted that they postulate both a theory of innate or universal ideas and linguistic universals. But as Steinberg (1975:7) has pointed out, he "does not specify in detail how any particular universal idea could be activated through the experiencing of particulars." Moreover, "until the rationalist can define how universal ideas are originally formed in the mind prior to becoming innate and how such an idea can be activated through certain experiences, he is in no better position than the cognitive empiricist who claims, but cannot explain, how certain experiences can come to create a universal idea in the mind." Indeed, one does not have to be a cognitive empiricist in the popular new psycholinguistic

style to make such postulations; one can simply be an empiricist of an older, but more-criticized stripe to do so. Steinberg (1975:7) concludes, and rightly so, that "a speedy resolution of this milennia-old issue is unlikely."

Note too that there is a certain amount of tautology in the generative linguist's description of what linguistic universals are all about. According to Katz (1971:103-104), "linguists can abstract out the common features from a set of linguistic descriptions and so generalize from them to hypotheses about linguistic universals. Alternatively, linguists can facilitate their task of describing a language by using the model provided by linguistic theory as a pattern for their systematization of the facts they uncover in field work. . . . putative linguistic universals are inductively extrapolated generalizations projected from known regularities cutting across the set of already constructed linguistic descriptions...." But linguistic universals in the generative sense are just as often deductively formulated, providing for a certain irreducible and not altogether unexpected regularity in the matter of their formal presentation.

Despite such claims by Katz and others, many remain unconvinced. Indeed, many philosophers as well as psychologists find the arguments for the innateness hypothesis vague, possibly meaningless. Putnam's and Goodman's remarks on Chomsky's recent summarization (1971) of contributions to the theory of innate ideas is probably the bluntest, observing that while

the innateness hypothesis considers the human brain as being somehow "'programmed' at birth in some quite specific and structured aspects of human natural language," it is nevertheless the fact that "what 'built in' means is highly unclear in this context (1971:130), let alone what is specific and what is structured. If we leave the question of what it is that is innate as simply a kind of human learning potential, then one must consider that what one is saying is really no different from what many behaviorists would say and equally informative. As Putnam puts it, "How could something with no innate intellectual equipment learn anything?(p.134)"

Obviously, we must conclude with such philosophers that until the term 'innate idea' is applied, what is advocated is the rather trivial truth that the mind has certain capacities, tendencies, and limitations. And with this suggestion, so also the notion of the innateness hypothesis may at first blush be viewed as a rather exciting--maybe even daring -- bit of speculation on the nature of man, evolution, the mind, and the special place language occupies in man's behavioral repertoire. Exciting and daring, indeed, but perhaps at second blush, simply an self-obvious truth masquerading as an obscure fact. In strictly behaviorist discussions, of course, such an exotic piece of fluff has set discourse wagging, and to this end, its overstatement may have served its purpose, namely, to re-focus our attention on a more reasonable position regarding the nature of language acquisition, neither too heavily tied to behaviorism and experience, nor too heavily tied to rationalism and innateness considerations.

Footnotes

[1] An earlier version of this paper was presented under the title "Nativism in Psycholinguistics and Linguistics" at the Annual Western Conference on Linguistics, held at the University of British Columbia, Vancouver, British Columbia, Oct. 16, 1976.

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